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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

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REF: 4WD-SSRB

YELLOW

James C. Brown, Manager
Environmental Affairs Department
Olin Chemicals
Post Office Box 248
Charleston, Tennessee 37310

RE: Olin Corp./McIntosh Plant Superfund Site
Comments on the Environmental Evaluation
Technical Memorandum

Dear Mr. Brown:

Please find enclosed comments on the Environmental Evaluation Technical Memorandum for the Olin Corp./McIntosh Plant superfund site. Please prepare a line-by-line response to each comment and submit your responses on or before December 14, 1992. Final approval of this document will occur after EPA reviews your responses. This will eliminate the need to resubmit this technical memorandum. All acceptable responses must be incorporated into the Draft Baseline Risk Assessment.

If there are any questions pertaining to the enclosed document, please feel free to give me a call at (404)347-2643.

Sincerely,

Cheryl W. Smith
Remedial Project Manager
South Superfund Remedial Branch

Enclosure

cc: Joe Downey, ADEM
Rachel Cochran, PRC
Pete Douglass, FWS
Waynon Johnson, NOAA

**COMMENTS ON THE**
**ENVIRONMENTAL EVALUATION TECHNICAL MEMORANDUM**
**OLIN CORPORATION**
**MCINTOSH, ALABAMA**

3 8 1476

**GENERAL COMMENTS**

1. According to the document, the major community types observed in OU-2 are semi-permanently flooded, permanently flooded and temporarily flooded bottomland. Wetlands are considered to be sensitive environments that have many functional values. The document lacks any pertinent discussion on the presence of these wetlands and the potential impacts to these areas as a result of site contamination. Provide a complete assessment of the wetlands in the Baseline Risk Assessment (BRA) and include, at a minimum, the following information: A) the important functions the wetlands serve in the OU-2 environment, B) the potential impacts to the environment as a result of site contaminants, and C) the measures to be taken to comply with federal and state regulations protecting wetlands in preparation for possible site remediation activities.

2. The document has not clearly characterized the likely or presumed exposure pathways (air, surface water, soil, sediments, vegetation). Provide a brief discussion on each exposure pathway to determine the potential of exposure to terrestrial and aquatic species, as well as to recognize potential exposure to humans. This includes transfer of contaminants through the food chain as well as the risk to all organisms that may utilize areas contaminated by site-related contaminants.

3. The document presents ecological assessment data for OU-2 only. This document did not contain the results of the the vegetative stress survey conducted in areas of OU-1 in November 1991. The impacts from potential contamination in OU-1 should be presented in the BRA as it relates to the ecological assessment portion of this document.

4. The document fails to outline the effect, if any, that basin contaminants place upon the adjacent Tombigbee River especially during those times of the year when the river and the basin are one contiguous body. Specifically, the document states that the absence of allochtonous coarse particulate organic matter in the basin may be due to annual flooding and flushing of the basin. If such is the case, then it seems reasonable that contaminated sediments as well would be flushed from the basin into the river. Contaminant transport from and to the basin as it relates to the Tombigbee River must be addressed in the BRA.

SPECIFIC COMMENTS

1. Executive Summary, Page ES-2, Paragraph 3. Provide language to address the issue of bioaccumulation of mercury (in the form of methyl mercury) in upper trophic level organisms.

2. Section 2.0, Page 12, Paragraph 1. Provide the methodology used for reducing the original list of contaminants of concern. In your explanation, provide the frequency of detection, concentration and toxicity criteria used for limiting the list of contaminants of concern.

   In addition, the purpose and value of the screening method has not been clearly stated. Provide the rationale for using the screening method. In addition, the Sediment Screening Values and Federal Water Quality Criteria do not address the potential for bioaccumulation in the food chain for the population present in the basin. The BRA must provide information on bioaccumulation of site contaminants.

3. Section 2.1.1, Page 15, Paragraph 2. The text omits mention of the elutriate mercury analysis performed on sediment samples. However, the analytical results from this method are provided in Appendix A. Provide a brief discussion on the purpose for this analysis and significant information on the results.

4. Section 2.1.1, Page 16, Paragraph 1. The text should state whether the referenced reported common ranges for metals are regional in relation to the Olin site or are national ranges.

5. Section 2.1.1, Page 16, Paragraph 2. According to Table 3, mercury should be included in the text as a constituent detected above the reported common range for metals.

   Also, the text states that selenium was detected at a concentration above the common metals range; however, Table 3 lists the maximum detection limit for selenium because the analyte was not detected in the grab sample. Resolve this discrepancy.

6. Section 2.2, Page 17, Paragraph 1. The text states that certain chemical compounds were eliminated based on concentrations, frequency of occurrence, and comparison with ecological criteria and EPA guidelines. Provide a list of quantitative values upon which the elimination of chemicals was based.

   Also, Section 2.0, paragraph 1 states that the list of chemicals of potential concern was partially determined through a review of health toxicity factors. However,

Section 2.2 does not discuss toxicity as a screening criterion. Reference is made to ecological criteria and guidelines (Region IV Sediment Screening Values and Federal Water Quality Criteria). Such criteria and guidelines are not commonly used as criteria for selection of chemicals of potential concern Therefore, provide a discussion on the use of toxicity criteria as a screening mechanism.

7. Section 2.2, Page 18, Paragraph 2. The last sentence states that comparisons of chlorinated benzene concentrations between fish tissue and sediments can be made. The text should provide an explanation of how such comparisons were used in the document.

8. Section 3.1.1, Page 23, Top of Page. The text should read "basal area per acre," not "basal acre per acre."

9. Section 3.1.3, Page 26, Paragraph 4. The first sentence refers to the identification of invertebrate taxa to the "generic" level. The term generic level is not appropriate in this context and should be revised to "genus" level.

10. Section 3.1.3, Page 27, Paragraph 1, Top of page. Provide a reference for outside experts used to identify voucher specimens.

11. Section 3.1.3, Page 28, Top of page. Provide a rationale or a reference for the selection of parameters that were compared with COMPTREE. Further, it is not apparent why the remaining compounds identified as chemicals of potential concern were not used in this comparison. Explain this omission.

12. Section 3.2.1, Page 36, Paragraph 3. The document does not state that Federal and State natural resources trustees were contacted for historical data, etc., concerning endangered and threatened species and their critical habitat. If these entities were contacted or if other resources were utilized, please provide this information in the BRA.

13. Section 3.2.1, Page 37, Paragraph 2. The text indicates the occurrence of dead cypress trees in the northern portion of OU-2 that were most likely killed by fire many years ago. However, the recent mortality of younger cypress trees also was noted during field observations. The text should include a possible explanation for the apparent recent death of the younger cypress trees.

14. Section 3.2.1, Page 37, Paragraph 4. The text states that damage to vegetation in the northern portion of OU-2 was apparently caused by a previous fire. Review historical data, including aerial photographs, to determine the

approximate time the fire occurred. Provide this information in the BRA.

15. Section 3.2.1, Page 38, Paragraph 1. In addition to mentioning the lack of emergent and submergent vegetation in the current wastewater ditch, include language on the lack of emergent vegetation in the shallow areas of the basin.

16. Section 3.2.2, Page 40, Paragraph 3. The text should provide a definition for the term "species of special concern."

17. Section 3.2.3, Page 41, Paragraph 2. The discussion on analysis of sediment particle size should include the purpose for the analysis and the potential information to be obtained with respect to sediment contamination.

18. Section 4.2, Page 52, Paragraph 1. The text states that OU-2 terrestrial and amphibious vertebrate populations do not differ significantly from those populations of similar offsite areas in the vicinity. Provide the basis for this conclusion, either from available literature sources or through actual field observations. In addition, the BRA must address the impact that site contaminants may pose on these populations.

19. Section 4.4, Page 54, Paragraph 2. Although the document provides a discussion on the effects of mercury concentrations in fish, the document fails to present ecological toxicity levels used for assessing the potential impacts to fish-eating species. In addition, the stated lowest observed effects levels (LOEL) are presented for mercury only. The discussion should also include LOELs for all listed potential contaminants of concern.

    Condition factors only address the length and weight of affected populations. However, these numbers do not reflect the potential of site contaminants on reproductive rates of the affected organisms, etc. Provide information in the BRA that relates the affect of site contaminants on all aspects of the life cycles, etc. of exposed populations present in the basin.

20. Section 5.0, Page 56, Paragraph 1. Provide examples that support the statement in the second sentence -- "Most indications of stress or adverse impact...."

    The BRA must provide a proposal to address the potential ecological effects of the migration of contaminants through the facility boundary via water, sediments, and biota.